

CLAIMS

What is claimed is:

1. A method for automating integration of terminological information into a knowledge base, said method comprising the steps of:
 3. receiving input terminology information comprising a plurality of input terms and information that specifies relationships among at least two of said input terms;
 6. storing a knowledge base comprising a plurality of nodes, which represent terminology, arranged to depict relationships among said terminology;
 8. parsing said input terminology information to generate a logical structure that depicts linguistic relationships among said input terms in a format compatible with said knowledge base;
 11. determining whether at least one input term exists as a node in said knowledge base;
 13. generating an independent ontology comprising said logical structure if none of said input terms exist as nodes in said knowledge base; and
 15. extending said knowledge base by logically coupling said logical structure to a node that matches an input term.
1. The method as set forth in claim 1, further comprising the steps of

3 determining whether an input term that matches a terminological node in
4 said knowledge base connotes a different meaning than said terminological node;
5 if so, then:
6 deleting said terminological node from its existing category -
7 subcategory relationship;
8 logically coupling said parent in said category - subcategory
9 relationship to said subcategory in said category - subcategory relationship to
10 form a new category - subcategory relationship; and
11 extending said knowledge base by logically coupling said input
12 term to a node in said knowledge base.

1 3. The method as set forth in claim 1, wherein the step of receiving
2 input terminology information comprises the step of receiving said terminology
3 in an ISO 2788 format.

1 4. The method as set forth in claim 1, wherein:
2 the step of receiving input terminology information comprises the step of
3 receiving broader term and narrower terms relationships among two input terms;
4 the step of storing a knowledge base comprises the step of storing categories
5 hierarchically arranged to include parent - child relationships among categories
6 related hierarchically; and
7 the step of parsing said input terminology information to generate a logical

8 structure comprises the steps of generating a parent - child relationship between
9 two terms comprising a broader term (BT) relationship in said input
10 terminological information, and generating a child - parent relationship between
11 two terms comprising a narrower term (NT) relationship in said input
12 terminological information.

1 5. The method as set forth in claim 1, wherein:
2 the step of receiving input terminology information comprises the step of
3 receiving synonym relationships between two terms;
4 the step of storing a knowledge base comprises the step of storing categories
5 hierarchically arranged to include parent - child relationships among categories
6 related hierarchically; and
7 the step of parsing said input terminology information to generate a logical
8 structure comprises the steps of generating parent- child relationships between a
9 common parent node in said knowledge base and said input terms specified as
10 synonym relationships in said input terminological information.

1 6. The method as set forth in claim 1, wherein:
2 the step of receiving input terminology information comprises the step of
3 receiving related term (RT) relationships among at least two input terms;
4 the step of storing a knowledge base comprises the step of storing categories
5 hierarchically arranged to include cross reference (Xref) relationships among

6 categories related; and

7 the step of parsing said input terminology information to generate a logical
8 structure comprises the step of generating cross references between terms
9 comprising a related term (RT) relationship in said input terminological
10 information.

1 7. The method as set forth in claim 1, wherein:

2 the step of receiving input terminology information comprises the step of
3 receiving preferred term (PT) relationships among at least two input terms;
4 the step of storing a knowledge base comprises the step of storing a
5 canonical/alternate form index that indexes a canonical form from one or more
6 alternate form; and

7 the step of parsing said input terminology information to generate a logical
8 structure comprises the step of generating canonical/alternate form index between
9 terms comprising a preferred term (PT) relationship in said input terminological
10 information.

1 8. A computer readable medium comprising a plurality of
2 instructions, which when executed, causes the computer to perform the steps of:

3 receiving input terminology information comprising a plurality of input
4 terms and information that specifies relationships among at least two of said input
5 terms;

6 storing a knowledge base comprising a plurality of nodes, which represent
7 terminology, arranged to depict relationships among said terminology;

8 parsing said input terminology information to generate a logical structure
9 that depicts linguistic relationships among said input terms in a format compatible
10 with said knowledge base;

11 determining whether at least one input term exists as a node in said
12 knowledge base;

13 generating an independent ontology comprising said logical structure if
14 none of said input terms exist as nodes in said knowledge base; and

15 extending said knowledge base by logically coupling said logical structure
16 to a node that matches an input term.

1 9. The computer readable medium as set forth in claim 8, further
2 comprising the steps of

3 determining whether an input term that matches a terminological node in
4 said knowledge base connotes a different meaning than said terminological node;

5 if so, then:

6 deleting said terminological node from its existing category -
7 subcategory relationship;

8 logically coupling said parent in said category - subcategory
9 relationship to said subcategory in said category - subcategory relationship to
10 form a new category - subcategory relationship; and

11 extending said knowledge base by logically coupling said input
12 term to a node in said knowledge base.

1 10. The computer readable medium as set forth in claim 8, wherein
2 the step of receiving input terminology information comprises the step of
3 receiving said terminology in an ISO 2788 format.

1 11. The computer readable medium as set forth in claim 8, wherein:
2 the step of receiving input terminology information comprises the step of
3 receiving broader term and narrower terms relationships among two input terms;
4 the step of storing a knowledge base comprises the step of storing categories
5 hierarchically arranged to include parent - child relationships among categories
6 related hierarchically; and
7 the step of parsing said input terminology information to generate a logical
8 structure comprises the steps of generating a parent - child relationship between
9 two terms comprising a broader term (BT) relationship in said input
10 terminological information, and generating a child - parent relationship between
11 two terms comprising a narrower term (NT) relationship in said input
12 terminological information.

1 12. The computer readable medium as set forth in claim 8, wherein:
2 the step of receiving input terminology information comprises the step of

3 receiving synonym relationships between two terms;
4 the step of storing a knowledge base comprises the step of storing categories
5 hierarchically arranged to include parent - child relationships among categories
6 related hierarchically; and
7 the step of parsing said input terminology information to generate a logical
8 structure comprises the steps of generating parent- child relationships between a
9 common parent node in said knowledge base and said input terms specified as
10 synonym relationships in said input terminological information.

1 13. The computer readable medium as set forth in claim 8, wherein:
2 the step of receiving input terminology information comprises the step of
3 receiving related term (RT) relationships among at least two input terms;
4 the step of storing a knowledge base comprises the step of storing categories
5 hierarchically arranged to include cross reference (Xref) relationships among
6 categories related; and
7 the step of parsing said input terminology information to generate a logical
8 structure comprises the step of generating cross references between terms
9 comprising a related term (RT) relationship in said input terminological
10 information.

1 14. The computer readable medium as set forth in claim 8, wherein:
2 the step of receiving input terminology information comprises the step of

3 receiving preferred term (PT) relationships among at least two input terms;

4 the step of storing a knowledge base comprises the step of storing a

5 canonical/alternate form index that indexes a canonical form from one or more

6 alternate form; and

7 the step of parsing said input terminology information to generate a logical

8 structure comprises the step of generating canonical/alternate form index between

9 terms comprising a preferred term (PT) relationship in said input terminological

10 information.

1 15. A computer system comprising:

2 an input device for receiving input terminology information comprising a

3 plurality of input terms and information that specifies relationships among at least

4 two of said input terms;

5 memory for storing a knowledge base comprising a plurality of nodes,

6 which represent terminology, arranged to depict relationships among said

7 terminology; and

8 processor unit, coupled to said memory and said input device for parsing

9 said input terminology information to generate a logical structure that depicts

10 linguistic relationships among said input terms in a format compatible with said

11 knowledge base, for determining whether at least one input term exists as a node

12 in said knowledge base, for generating an independent ontology comprising said

13 logical structure if none of said input terms exist as nodes in said knowledge

- 14** base; and for extending said knowledge base by logically coupling said logical
- 15** structure to a node that matches an input term.